

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

REMARKS

Present Status of the Application

The Office Action rejected claims 1, 3-4, 6-8, 10-11, and 13-16 under 35 U.S.C. 102(b) as being anticipated by Yanagisawa et al (US-2002/0046887, hereinafter "Yanagisawa '887"). The Office Action also rejected claims 2, 5, 9, 12, and 17 under 35 U.S.C. 103(a) as being unpatentable over Yanagisawa et al. (US Patent 6,965,377, hereinafter "Yanagisawa '377") in view of Dougherty et al. (US Patent 6,076,734, hereinafter "Dougherty").

Discussion of Rejections Under 102

The Office Action rejected claims 1, 3-4, 6-8, 10-11, and 13-16 under 35 U.S.C. 102(b) as being anticipated by Yanagisawa et al (US-2002/0046887, hereinafter "Yanagisawa '887").

Regarding claim 1, the following are the traversal:

The following feature in the preamble in claim 1: "a non-touch panel input device" should be given patentable weight because of the following:

MPEP 2111.02 recites: "Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of whether preamble recitations are structural limitations can be resolved only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim.")"

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

Yanagisawa '887 in paragraph [0046] teaches of "display pixel on the LCD 21" and in FIG. 1 clearly teaches of "touch panel input device" shown as the stack of layers of 11, 13, 14, and 21. The "touch panel" is evidenced by the pen 1 making direct contact in FIG. 1 with the surface of the film 13. Additionally Yanagisawa '887 in paragraph [0055] recites: "The surface of the film 13 having the dot array 12 formed thereon is bonded on the glass plate 14 with a transparent adhesive, etc. By this structure, even when an operator indicates or moves and scans the surface of the coordinate plate 11 for inputting, the dot array 12 cannot touch the pen 1 directly, thereby eliminating damages and dropping off in the dot array 12 so as to hold the dot array 12 forever with extremely high reliability." Based on the above recited paragraph [0055], it is quite clear that the film 13 is used to provide the actual contacting surface for the "touch panel" as shown in FIG. 1 of Yanagisawa '887. As a result, Yanagisawa '887 teaches of a stack of layers 11, 12, 13, 14, and 21 for a "touch panel input device". On the other hand, the "non-touch panel input device" feature in the preamble in claim 1 clearly is needed to limit the structure to be without the film 13 in FIG. 1 of Yanagisawa '887 because there is no physical direct contact at all in the present invention, therefore there is no need to have a protective film.

Furthermore, the feature "non-touch panel input device" in claim 1 is clearly patentable over Yanagisawa '887 because Yanagisawa '887 teaches of a stack of layers 11, 12, 13, 14, and 21 for a "touch panel input device" instead.

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

The following claim limitation in claim 1: "Pixel structure" is patentable over Yanagisawa '887.

The pixel structure is defined in claim 1 and FIG. 7 as including the following: "a sub-pixel; and a first shadow pixel positioned on one side of the sub-pixel". In other words, there is a one to one correspondence of a sub-pixel matched with a shadow pixel that is positioned on one side of the sub-pixel. On the other hand, Yanagisawa '887 teaches of various instances for $32xi$ and $32xi+1$ in FIG. 8 to have sub-pixels that do not have corresponding shadow pixels as well as not having the shadow pixels "positioned on one side." In other words, Yanagisawa '887 instead teaches of a plurality of sub-pixels and a plurality of shadow pixels organized in a plurality of patterns but without the requirement of having a shadow pixel to be "positioned on one side" of a corresponding sub-pixel. Meanwhile, the sub-pixel as interpreted in the Office Action on page 2 as being equivalent to the "display pixel" (as shown in FIG. 8 in upper left hand corner) are not capable of being "positioned on one side" of the shadow pixels because Yanagisawa '887 in paragraph [0046] teaches of "display pixel on the LCD 21" and the dot array 12 containing the shadow pixels are not even of the same or adjacent layers as shown in FIG. 1. In fact, FIG. 7 shows an upper glass plate 21a in between the display pixel on the LCD 21 and the various shadow pixels (as dots) clustered together as shown in FIG. 5.

Thus, the above teachings from Yanagisawa '887 clearly violate the sets of conditions as found by the definition of "pixel structure" in claim 1. Please note that the phrase

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

"positioned on one side" cannot be interpreted in a vacuum, but instead should be defined also by the specification as found, for example, in FIG. 6 of the present invention.

Based upon the traversal above, claim 1 is patentable over Yanagisawa '887.

Regarding claims 3 & 10, the following are the traversal:

The claim limitation "shadow pixel is set to emit electromagnetic radiation" is patentable over Yanagisawa '887 based on the following:

Yanagisawa '887 in paragraph [0048] recites: "A light-emitting element 4 irradiates the coordinate plate 11 using an LED and a semiconductor laser element, for example. A collimator lens 5 for making the irradiated light parallel beams may be provided on demand. In order to improve availability of the light-emitting element 4, beam-condensing means such as a reflecting mirror may be used."

Based on the above paragraph [0048], it is evident that Yanagisawa '887 teaches of using a light-emitting element as shown also in FIG. 1 in Yanagisawa '887 to "emit" the light needed onto the film surface 11 for illuminating the dot array 12 (considered in the Office Action as the shadow pixels), which are then "reflected" through an objective lens 3 to an area sensor 2.

On the other hand, the present invention in paragraph [0013] recites: "The pixel array of this invention comprises a plurality of pixel structures each having a shadow pixel suitably positioned for producing an electromagnetic radiation. Therefore, a sensor can be used to locate the shadow pixel emitting the electromagnetic radiation. Hence, the pixel array can be used to construct a non-touch display panel." Hence, it is evident that the shadow pixels

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

in claim 3 is to emit electromagnetic radiation itself and not needing to depend on an external light emitting source and not using "reflected" electromagnetic radiation as is taught in Yanagisawa '887. As a result, claim 3 is patentable over Yanagisawa '887, and thus should be allowed.

Regarding claim 7, the claim limitation "the first shadow pixel in the first electromagnetic radiation state is fabricated using a material different from the first shadow pixel in the second electromagnetic radiation state" is to have the "entire" shadow pixel to be made of a different material. On the other hand, as stated in Office Action in Page 3, Yanagisawa '887 states in Paragraph [0103] of having only the coated surface of the dots using ink to be of a different material for reflecting light to produce a different color; however, the shadow pixel or the dots from the dot array 12 itself is not taught to have a different material. As a result, claim 7 is patentable over Yanagisawa '887, and thus should be allowed.

Regarding claim 14, the claim limitation "the second shadow pixel in the third electromagnetic radiation state is fabricated using a material different from the second shadow pixel in the fourth electromagnetic radiation state" is patentable over Yanagisawa '887 based upon the same traversal as in claim 7 above, and thus claim 14 should also be allowed.

Regarding claim 16, the claim limitation "a second shadow pixel positioned on the other side of the sub-pixel corresponding to the second shadow pixel in the first pixel

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

structure" is patentable over Yanagisawa '887 based upon a similar traversal as in claim 1 above, and thus claim 16 should also be allowed.

Discussion of Rejections Under 103

The Office Action also rejected claims 2, 5, 9, 12, and 17 under 35 U.S.C. 103(a) as being unpatentable over Yanagisawa et al. (US Patent 6,965,377, hereinafter "Yanagisawa '377") in view of Dougherty et al. (US Patent 6,076,734, hereinafter "Dougherty").

In regards to claim 2, the claim limitation "first shadow pixel is fabricated using a material capable of producing electromagnetic radiation" is to have the "entire" shadow pixel to be made of a different material. On the other hand, as stated in Office Action in Page 6, Yanagisawa '887 inherently teaches in Paragraph [0082] or Yanagisawa '377 inherently teaches in col. 14, line 64 – col. 15, 4 of having only the coated surface of the dots using ink to be of a different material for reflecting light to produce a different color; however, the shadow pixel or the dots from the dot array 12 itself is not taught to have a different material. As a result, claim 2 is patentable over Yanagisawa '377 in view of Dougherty, and thus should be allowed.

Additionally, as claim 2 is dependent upon independent claim 1, the patentability of claim 1 over Yanagisawa '377 in view of Dougherty also carries over to claim 2.

Applicants submit that "a first shadow pixel set up in a non-transparent region of the pixel structure" as set forth in claim 1 is neither taught, disclosed, nor suggested by Yanagisawa '377 in view of Dougherty, taken alone or in combination.

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

As was previously traversed in the response to office action dated June 26, 2006, Dougherty fails to teach, suggest or disclose the pixel structure as required by claim 1. A pixel should be well understood by one of ordinary skill in the art as the smallest complete sample of an image. The hot spot in figures 7 and 8 of Dougherty is only an encoded marker relating a remote information store elsewhere. More specifically, the hot spot in figures 7 and 8 is not a pixel structure of the non-touch panel. Therefore, the pixel structure in claim 1 is patentable over the hot spot in figures 7 and 8 taught in Dougherty.

Based upon the above traversal, claim 2 is patentable over Yanagisawa '377 in view of Dougherty, taken alone or in combination, and thus should be allowed.

Regarding claim 5, as claim 5 is dependent upon independent claim 1 and dependent claim 3, the patentability of claims 3 and 1 over Yanagisawa '377 in view of Dougherty also carries over to claim 5.

When considered under the inherited limitations and features of claim 3, the sensor of Dougherty includes a light emitter 302 and a sensing element 304. When sensing the light spectrum, the light emitter 302 emits light and the sensing element 304 receives the light reflected from the desired region 32. (column 9, line 66 to column 10, line 15) Thus, Dougherty clearly does not teach of electromagnetic radiation emitted from the pixel structures but instead is emitted from the light emitter 302.

However, when inputting data into the display panel 700, a sensor 710 passes over the display panel 700 receives the electromagnetic radiation emitted from the pixel structures 702 to find a digital code for the location of the sensor of the instant application. (FIG. 8 of

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

the instant application) Accordingly, the sensor Dougherty is different from that of this application. As a result, by means of claim 5 inheriting the claim limitation of "first shadow pixel is set to emit electromagnetic radiation" from claim 3 and inheriting the patentable claim features and limitations of claim 1 as previously discussed above, claim 5 is patentable over Yanagisawa '377 in view of Dougherty, and thus should be allowed.

Regarding claim 9, 'the second shadow pixel is fabricated using a material capable of producing electromagnetic radiation' is patent over Yanagisawa '377 in view of Dougherty. Yanagisawa '377 inherently teaches in col. 14, line 64 – col. 15, 4 of having only the coated surface of the dots using ink to be of a different material for reflecting light to produce a different color; however, the shadow pixel or the dots from the dot array 12 itself is not taught to have a different material.

Furthermore, by means of claim 9 inheriting the claim limitation: " first pixel structure furthermore comprises a second shadow pixel positioned on the other side of the sub-pixel" from claim 8 ,and inheriting the patentable claim features and limitations of claim 1 as previously discussed above, claim 9 is further patentable over Yanagisawa '377 in view of Dougherty based upon a similar traversal as in claim 1 in the above section, and thus claim 9 should also be allowed.

Regarding claim 12, by means of claim 12 inheriting the claim limitation: "second shadow pixel is set to emit electromagnetic radiation" from claim 10 and also inheriting the patentable claim features and limitations of claims 1 and 8 as previously discussed above, claim 12 is patentable over Yanagisawa '377 in view of Dougherty based upon a similar

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

traversal as in claims 1 and 10 in the above section and in claim 9 above, and thus claim 12 should also be allowed.

Regarding claim 17, the claim limitation: "second shadow pixel is fabricated using a material capable of producing electromagnetic radiation" is patentable over Yanagisawa '377 in view of Dougherty based on the same traversal as in claim 9 above. Additionally, by means of claim 17 inheriting the claim limitations and features of claim 1 as previously traversed, claim 17 is patentable over Yanagisawa '377 in view of Dougherty.

Customer No.: 31561
Docket No.: 10870-US-PA
Application No.: 10/604,689

CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-17 are in proper condition for allowance and an action to such effect is earnestly solicited. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Date :

Oct. 17, 2006

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